



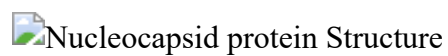
## Synonym

Nucleocapsid protein, NP, Protein N

## Source

SARS-CoV-2 Nucleocapsid protein, His Tag (NUN-C52H8) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Ala 419 (Accession # [QHO62115.1](#)). D3L/ R203K/ G204R/ S235F were identified in the SARS-CoV-2 Alpha variant (Pango lineage: B.1.1.7; other names: 20I/501Y.V1 or VOC 202012/01) (data retrieved from <https://pubmed.ncbi.nlm.nih.gov/33095454/>). Predicted N-terminus: Met 1

## Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 47.4 kDa. The protein migrates as 30-35 kDa and 60-66 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Endotoxin

Less than 1.0 EU per µg by the LAL method.

## Purity

>90% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

## Storage

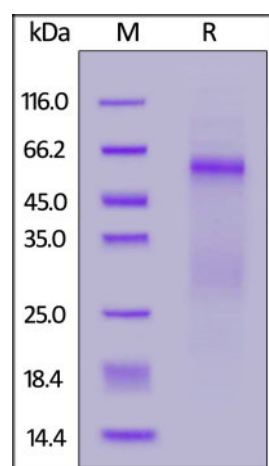
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## SDS-PAGE

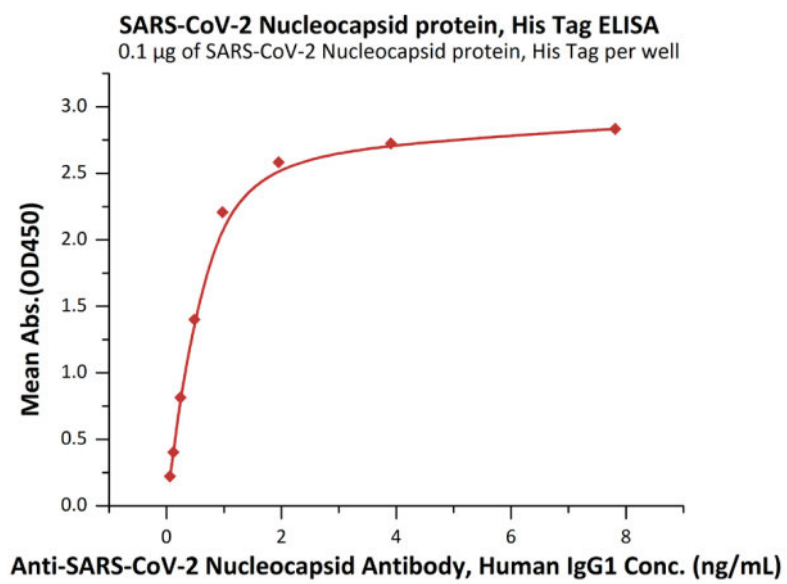


SARS-CoV-2 Nucleocapsid protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

## Bioactivity-ELISA

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Immobilized SARS-CoV-2 Nucleocapsid protein, His Tag (Cat. No. NUN-C52H8) at 1 µg/mL (100 µL/well) can bind Anti-SARS-CoV-2 Nucleocapsid Antibody, Human IgG1 with a linear range of 0.06-1 ng/mL (QC tested).

## Background

Nucleocapsid (N) protein is the most abundant protein found in coronavirus. CoV N protein is a highly immunogenic phosphoprotein important for viral genome replication and modulation of cell signaling pathways. It was first identified by a research team while they were screening for ADP-ribosylated proteins during coronavirus (CoV) infection (Grunewald M. E., et al. 2017, Virology; 517: 62-68). The array of diverse functional activities accommodated in N protein makes it more than a structural protein but also an interesting target in the development of antiviral therapeutics. Because of the conservation of N protein sequence and its strong immunogenicity, N protein of coronavirus is chosen as a diagnostic tool.

## Clinical and Translational Updates

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